

## ABSTRACT

- The present invention relates to a titania composite membrane for separating water/alcohol mixtures and a method of preparation thereof, and more particularly
- 5 to the titania composite membrane and the method of preparation thereof, wherein a surface of a porous support is modified with silica xerogel and  $\gamma$ -alumina sol and titania sol is coated on the modified surface to form a titania surface layer and then the obtained titania surface layer is dried and calcined to optimize performance of separation and promote thermal stability.
- 10 The titania composite membrane of the present invention has excellent properties such as thermal stability, mechanical strength and good perm-selectivity for water molecule in water/alcohol mixtures due to the hydrophilic property of the titania surface layer, thus being applicable to the membrane for separating water/alcohol mixtures.